

REMARKS

Applicant has reviewed the Office Action mailed on March 26, 2004 as well as the art cited. Claims 1, 13, 17, 19-23, 43, 45-46, and 48 are currently amended, claims 18 and 47 are cancelled without prejudice or disclaimer, and claims 50-69 have been added, as a result claims 1-17, 19-46 and 48-69 are currently pending in this application.

Examiner Interview

Applicant would like to thank Examiner Coulter for the telephonic interview on July 13, 2004. The telephonic interview regarded a discussion of claims 1-49 in view of Horne (U.S. Patent 5,515,377). In particular, three major topics were discussed including: Applicant's apparatus adapted to receive multiple data sources; Applicant's apparatus adapted to use an inverse multiplexer to transmit data over a plurality of communications lines; and the parameters used by Horne to set the compression level of the encoder. This Amendment and Response reflects the substance of the July 13, 2004 teleconference and incorporates the Examiner's comments and suggestions.

The first topic discussed is related to a recommendation offered by the Examiner suggesting that independent claim 1 be amended to include the limitation that the network interface circuit comprised within Applicant's apparatus is coupled to a plurality of communication sources. The Examiner agreed that Horne does not discuss an apparatus coupled to a plurality of communication sources. Thus, the Examiner indicated that claim 1 might be allowable if rewritten to include that the network interface circuit is coupled to a plurality of communication sources. Applicant has amended claim 1 as suggested by the Examiner, and believes that currently amended claim 1 is in condition for allowance. Further, Applicant believes that since the limitation of the network interface circuit coupled to a plurality of communication sources is found in original independent claims 24 and 32, and thus they are in condition for allowance as well.

Claims 6-12 depend either directly or indirectly from allowable claim 1 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 6-12 are allowable for the above reasons, Applicant may not have put forth responses to additional

rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

Claims 25-28 depend either directly or indirectly from allowable claim 24 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 25-28 are allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

Applicant also believes the argument above applies to original claim 29. Original claim 29 discloses a method for controlling delivery of video an ATM network by monitoring a plurality of connections to the ATM network used to transmit video data from at least one source. The Examiner agreed that Horne does not discuss an apparatus coupled to a plurality of communication sources. Thus, Applicant believes Horne does not discuss a method that includes monitoring a plurality of connections to the ATM network. Therefore, Applicant respectfully asserts claim 29 is in condition for allowance.

Claims 30-31 depend either directly or indirectly from allowable claim 29 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 30-31 are allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

The next topic discussed is related to a specific limitation of original claim 5 in which the apparatus for dynamically controlling the delivery of data over a network comprises an inverse multiplexer with a plurality of network ports, each network port adapted to be coupled to a selected communication link of the network. The Examiner agreed that Horne does not discuss the use of an inverse multiplexer as is also indicated by the Examiner's agreement that Horne also does not discuss a network interface circuit coupled to a plurality of communication sources. Thus, Applicant believes original claim 5 is not anticipated by Horne and therefore allowable.

Further, original independent claims 24 and 38 also disclose the use of an inverse multiplexer and therefore Applicant believes original claims 24 and 38 are allowable as well.

Claims 25-28 depend either directly or indirectly from allowable claim 24 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 25-28 are allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

Claims 39-42 depend either directly or indirectly from allowable claim 38 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 39-42 are allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

The last topic of the interview was a discussion of what parameters Horne discussed to set the compression level used for the encoder. In particular, the Examiner proposed that Horne discussed the use of buffer levels to select the level of compression for the encoder, citing Col. 3, lines 53-65 of the reference. Upon closer review however, Horne does not discuss selecting the level of compression for the encoder based on buffer levels. Horne appears to employ a two-layer video encoder method that “partitions and encodes the video signal into two-bit streams. One bit –stream includes the encoded base layer and the other includes the encoded enhancement layer,” (Col 3, lines 30-34). Further, Horne discusses a “quantization step size Q_{BL} for each macroblock in the base layer in response to an input signal from encoder base layer smoothing buffer that is representative of the fullness of the buffer,” (Col. 3, lines 56-60) and “ Q_{BL} is the only variable parameter used for encoding the base layer,” (Col. 3, lines 62-63). Thus, while Horne appears to encode the base layer based on buffer levels, Horne does not discuss setting the level of compression for the encoder based on buffer levels.

However, Horne does appear to use other measures to set the level of compression of the encoder. In particular, Horne appears to employ a “two-layered video encoding technique that adapts the algorithm used for encoding information transmitted in the low-priority bit-stream to the level of cell loss on the network so that compression efficiency and image quality are high

when the network load is low and resiliency to cell loss is high when the network load is high,” (Col. 2, lines 28 to 37). Horne also discusses that “[s]pecifically, the encoder encodes the prediction error blocks of the enhancement layer using either spatial or temporal prediction, or a combination of both spatial and temporal prediction, in response to a cell loss information signal indicative of the level of cell losses on the ATM network,” (Col. 2, lines 38 to 43). Horne appears to accomplish this by using a spatio-temporal weighting parameter w , and that “ w is adapted to varying cell loss levels and ATM network load conditions to provide for high compression and video image quality when the ATM network load is low and cell loss is rare, and improved resilience to cell loss when the ATM network load and the level of cell loss increases,” (Col. 5, lines 31-37). Lastly, Horne discusses “spatio-temporal weighting parameter w is determined as a function of the number of lost cells in a recent time interval, and as a function of the number of frames since the macroblock was last transmitted with spatial-only prediction,” (Col 5, lines 38-42). In further review of Horne, there is nothing that suggests using buffer levels to set the level of compression within the encoder.

As a result, the limitations of independent claims 13, 43 and 48 have been currently amended to distinguish itself from Horne. As a result Applicant believes currently amended claims 13, 43 and 48 are not anticipated by Horne and are allowable.

Claims 14-23 depend either directly or indirectly from allowable claim 13 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 14-23 are allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

Claims 44-46 depend either directly or indirectly from allowable claim 43 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claims 44-46 are allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

Claim 49 depends either directly or indirectly from allowable claim 48 and for at least the reasons provided above, should also be allowed. Since the Applicant believes, Claim 49 is

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allowable for the above reasons, Applicant may not have put forth responses to additional rejections to said claims at this time. However, the Applicant reserves the right to address said additional rejections to said claims if a further response is required.

CONCLUSION

Applicant respectfully submits that claims 1-17, 19-46, 48-69 are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at (612) 332-4720.

Respectfully submitted,

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